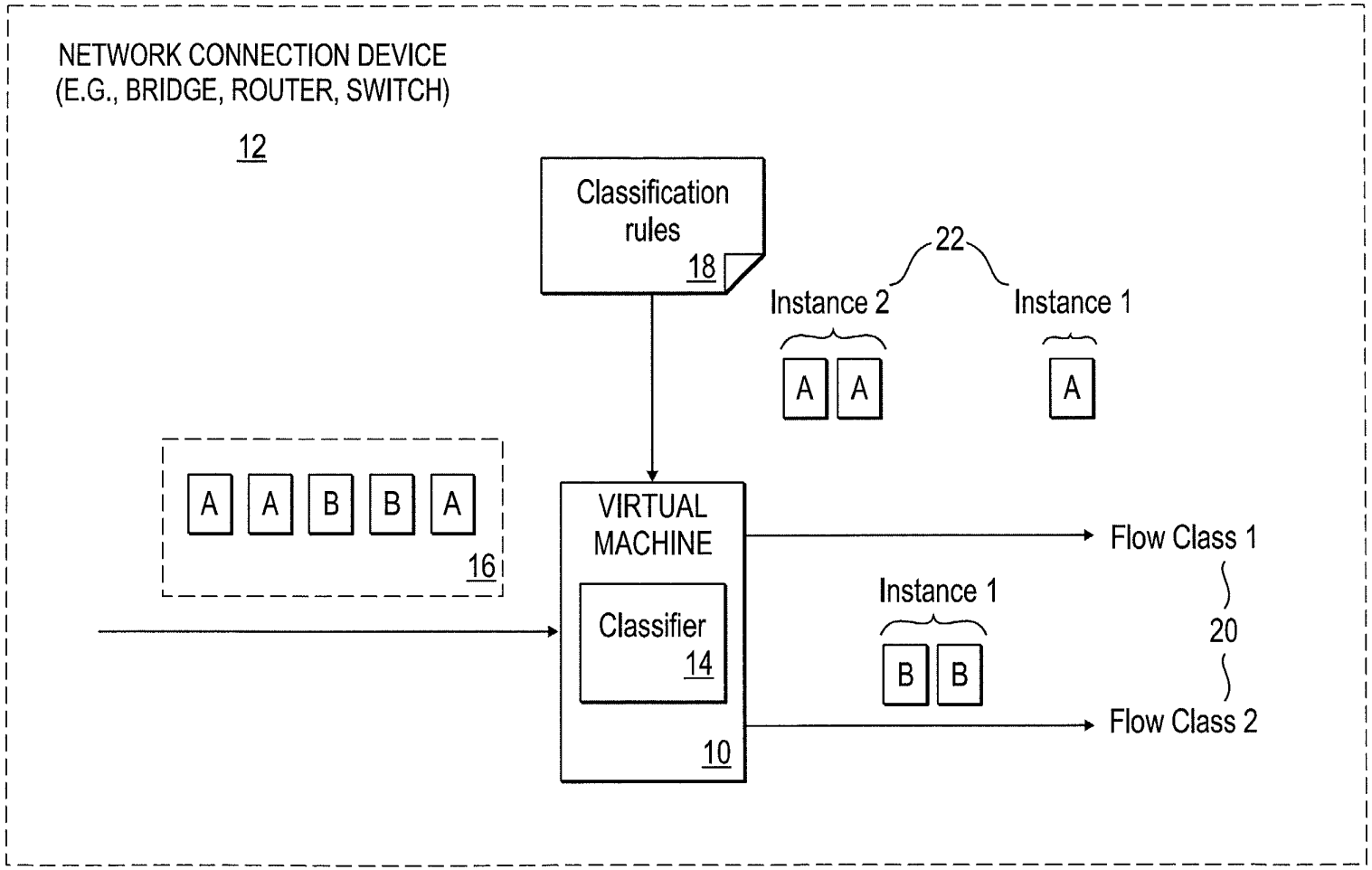


Fig. 1

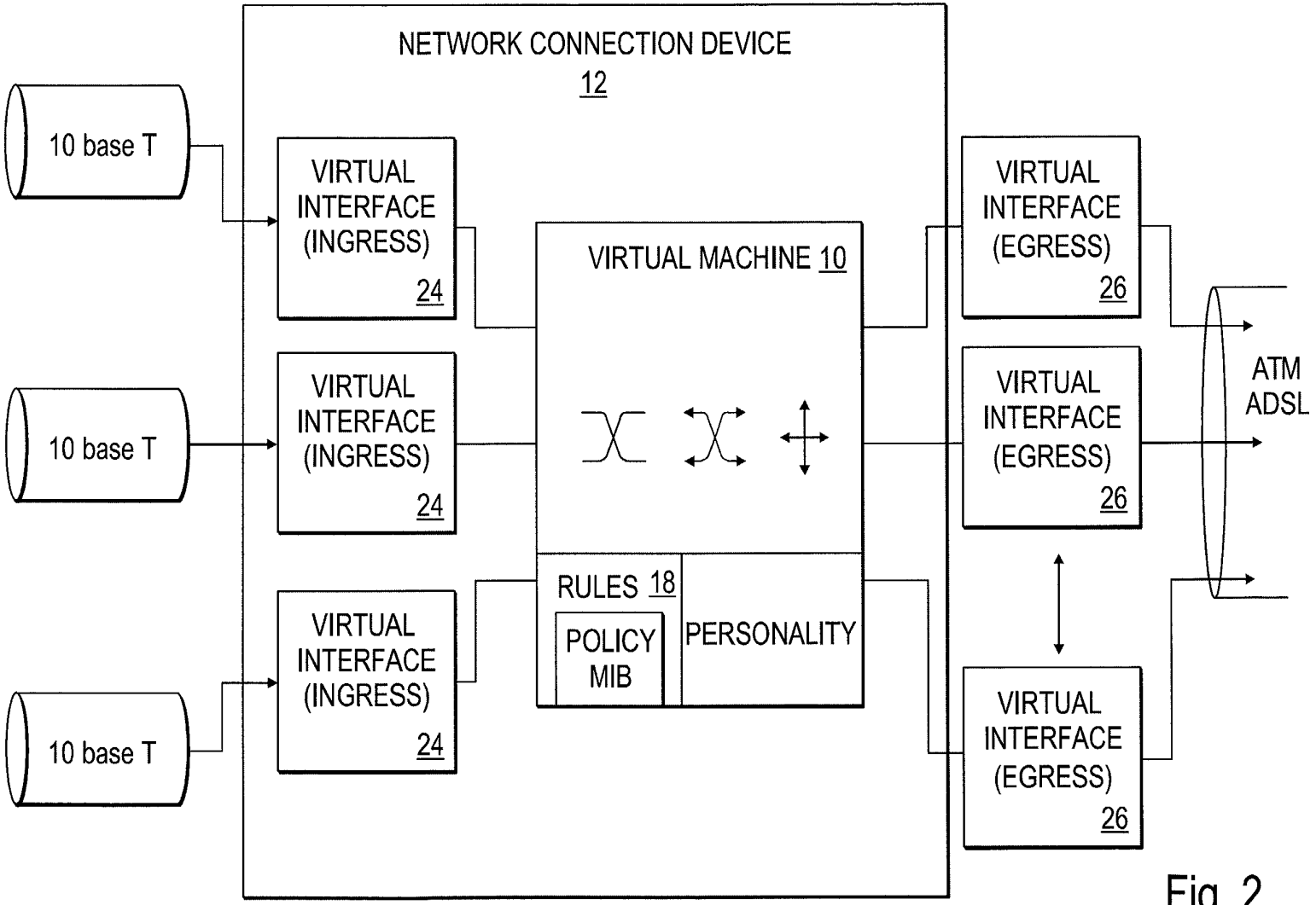

NETWORK CONNECTION DEVICE
12
10 base T
10 base T
10 base T
VIRTUAL INTERFACE (INGRESS) 24
VIRTUAL INTERFACE (INGRESS) 24
VIRTUAL INTERFACE (INGRESS) 24
VIRTUAL MACHINE 10
RULES 18
POLICY MIB
PERSONALITY
VIRTUAL INTERFACE (EGRESS) 26
VIRTUAL INTERFACE (EGRESS) 26
VIRTUAL INTERFACE (EGRESS) 26
ATM ADSL

Fig. 2

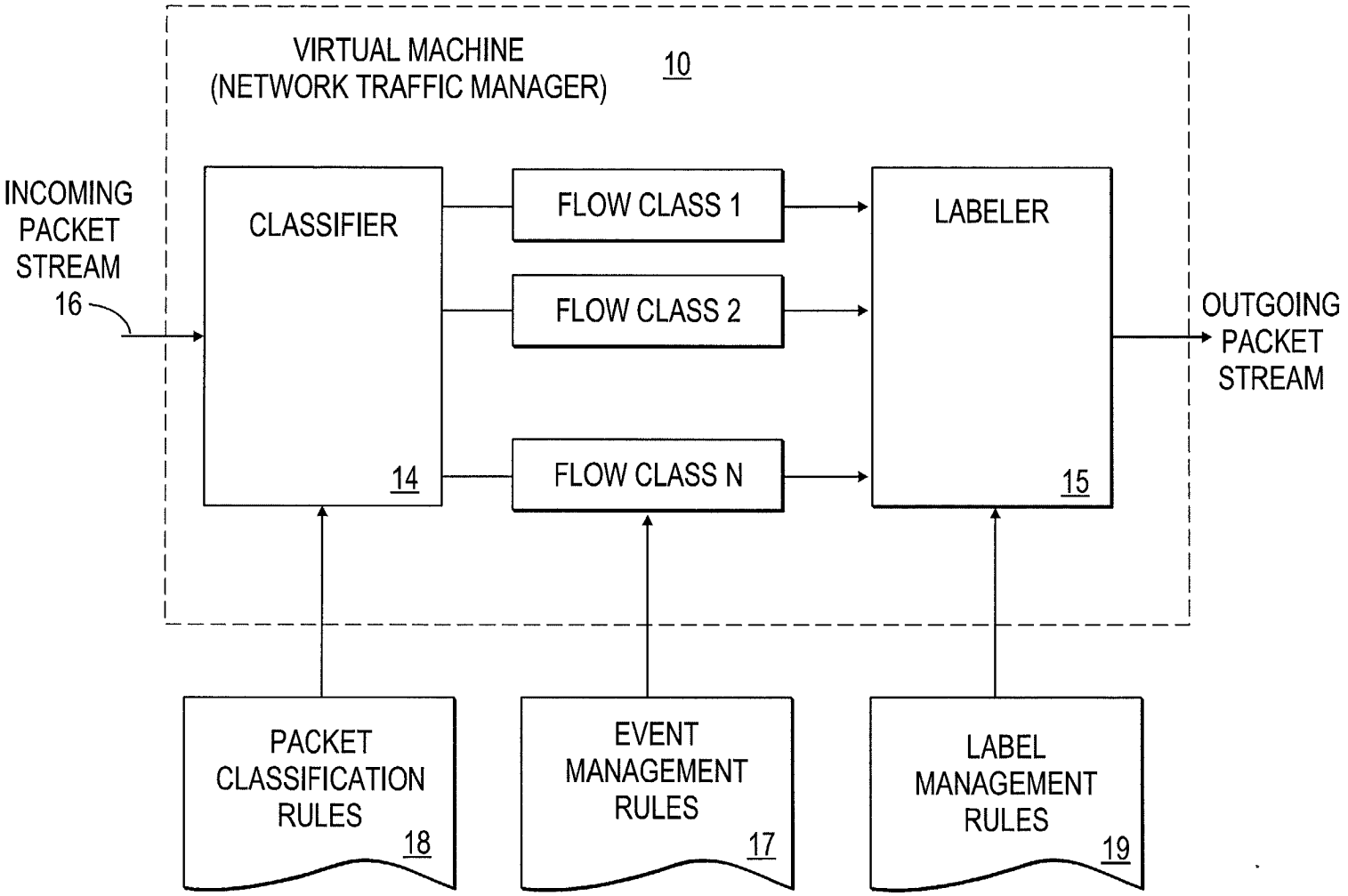
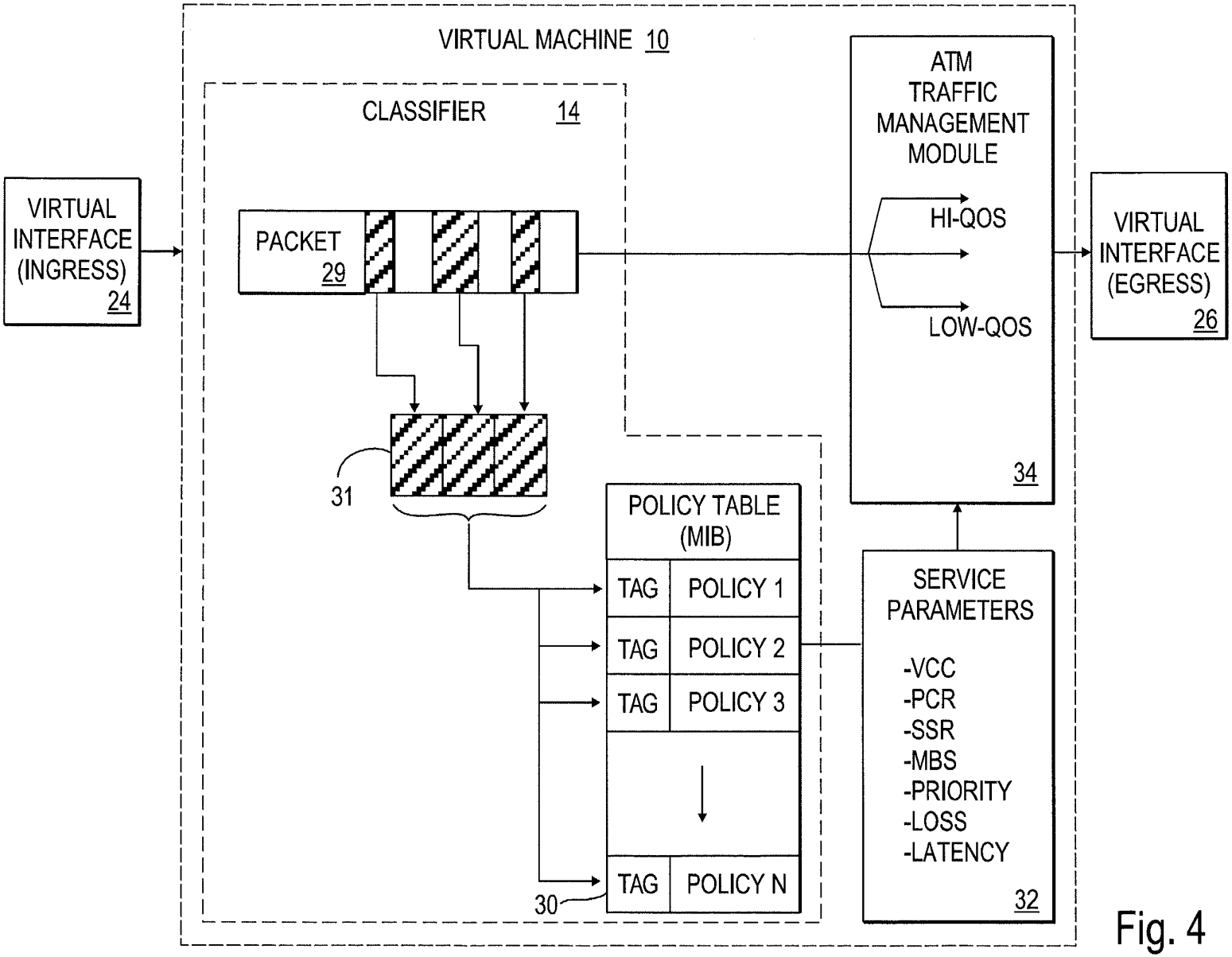

VIRTUAL MACHINE
(NETWORK TRAFFIC MANAGER)
10
INCOMING
PACKET
STREAM
16
CLASSIFIER
14
FLOW CLASS 1
FLOW CLASS 2
FLOW CLASS N
LABELER
15
OUTGOING
PACKET
STREAM
PACKET
CLASSIFICATION
RULES
18
EVENT
MANAGEMENT
RULES
17
LABEL
MANAGEMENT
RULES
19

Fig. 3


VIRTUAL MACHINE 10
CLASSIFIER 14
VIRTUAL INTERFACE (INGRESS) 24
PACKET 29
31
POLICY TABLE (MIB)
TAG
POLICY 1
TAG
POLICY 2
TAG
POLICY 3
TAG
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LOW-QOS
34
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SERVICE PARAMETERS
-VCC
-PCR
-SSR
-MBS
-PRIORITY
-LOSS
-LATENCY
32

Fig. 4

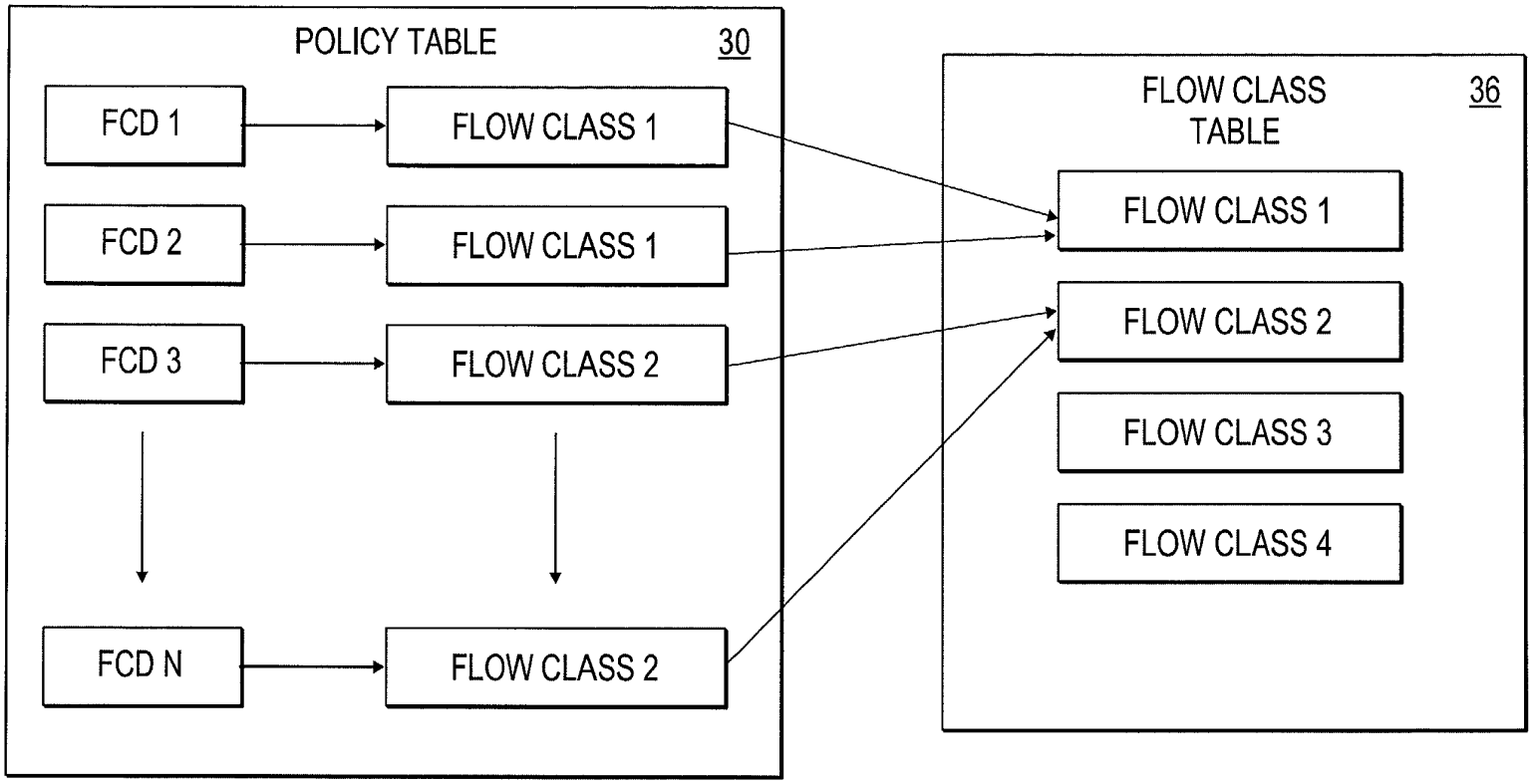


Fig. 5

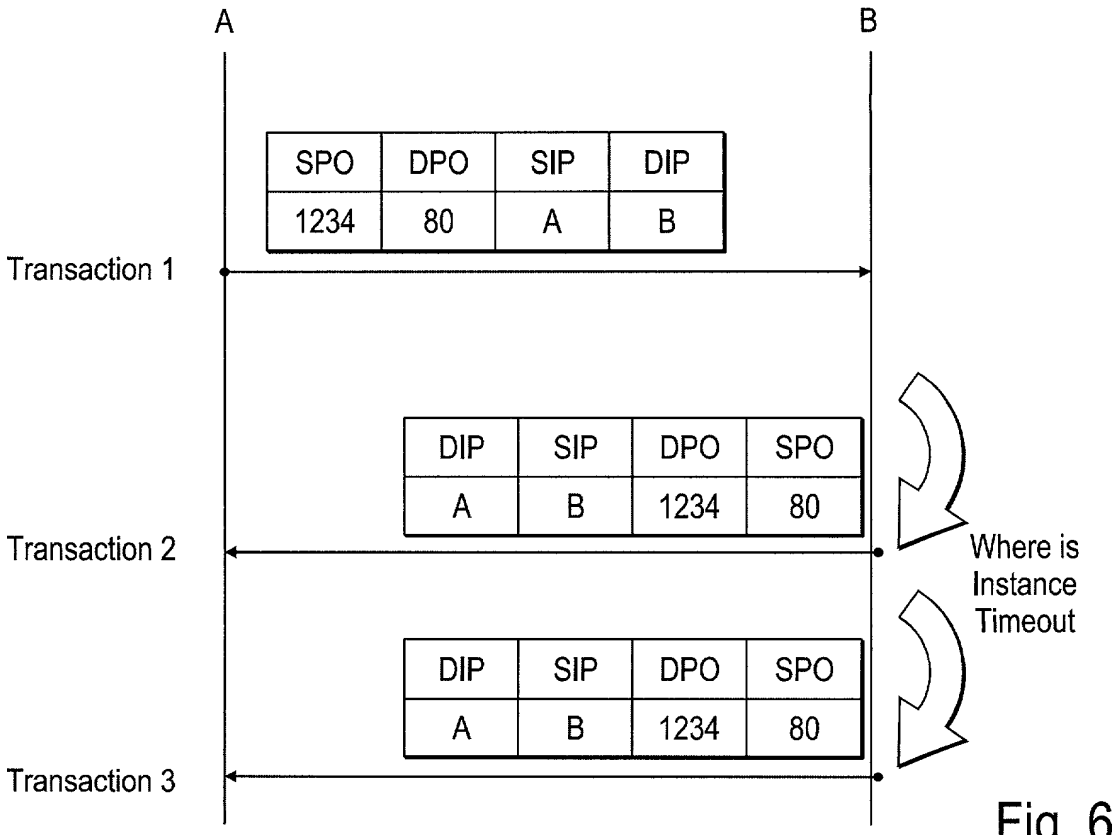

A
B
SPO
DPO
SIP
DIP
1234
80
A
B
Transaction 1
DIP
SIP
DPO
SPO
A
B
1234
80
Transaction 2
Where is Instance Timeout
DIP
SIP
DPO
SPO
A
B
1234
80
Transaction 3

Fig. 6

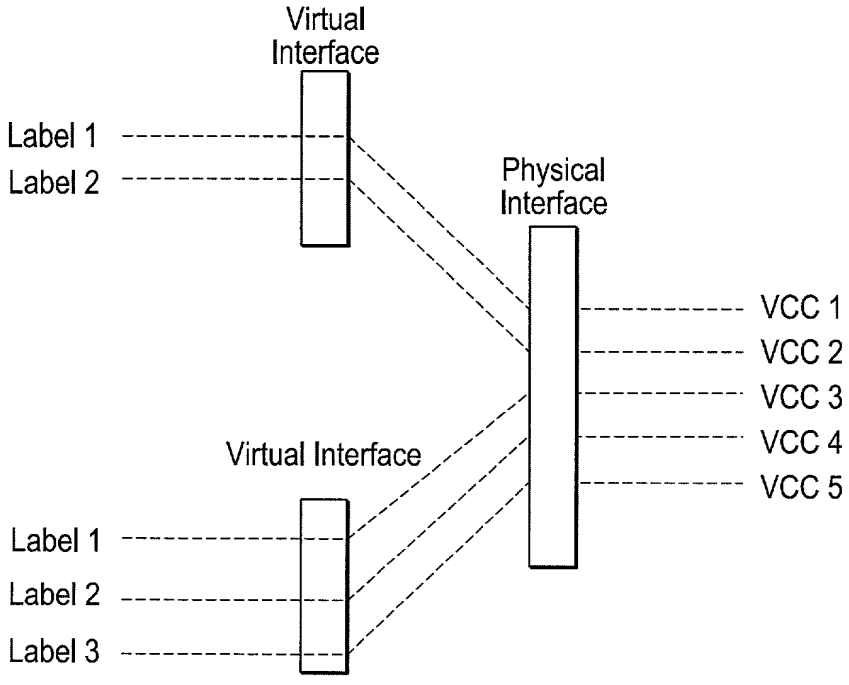

Virtual Interface
Label 1
Label 2
Physical Interface
VCC 1
VCC 2
VCC 3
VCC 4
VCC 5
Virtual Interface
Label 1
Label 2
Label 3

Fig. 7

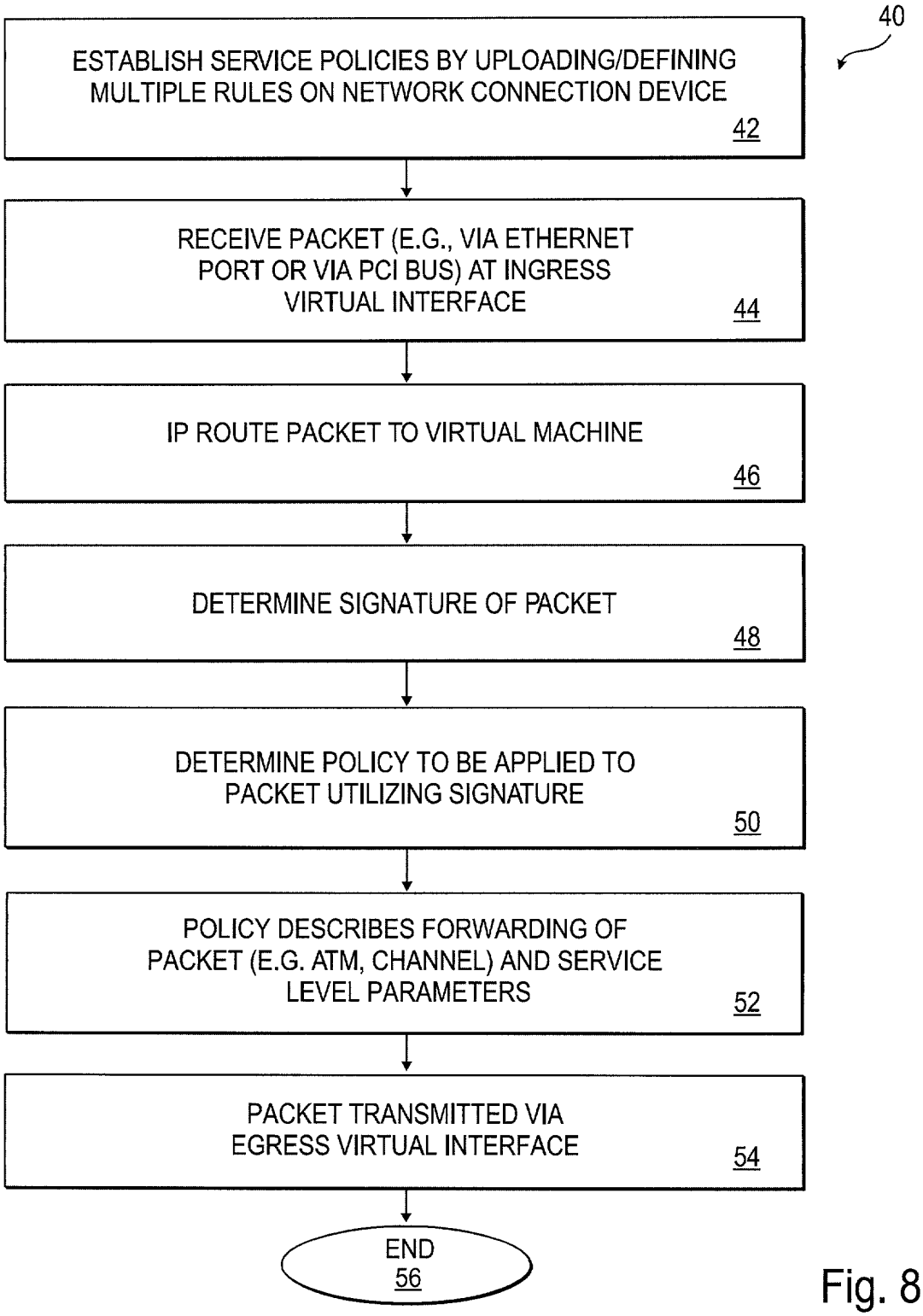

40
ESTABLISH SERVICE POLICIES BY UPLOADING/DEFINING MULTIPLE RULES ON NETWORK CONNECTION DEVICE
42
RECEIVE PACKET (E.G., VIA ETHERNET PORT OR VIA PCI BUS) AT INGRESS VIRTUAL INTERFACE
44
IP ROUTE PACKET TO VIRTUAL MACHINE
46
DETERMINE SIGNATURE OF PACKET
48
DETERMINE POLICY TO BE APPLIED TO PACKET UTILIZING SIGNATURE
50
POLICY DESCRIBES FORWARDING OF PACKET (E.G. ATM, CHANNEL) AND SERVICE LEVEL PARAMETERS
52
PACKET TRANSMITTED VIA EGRESS VIRTUAL INTERFACE
54
END
56

Fig. 8

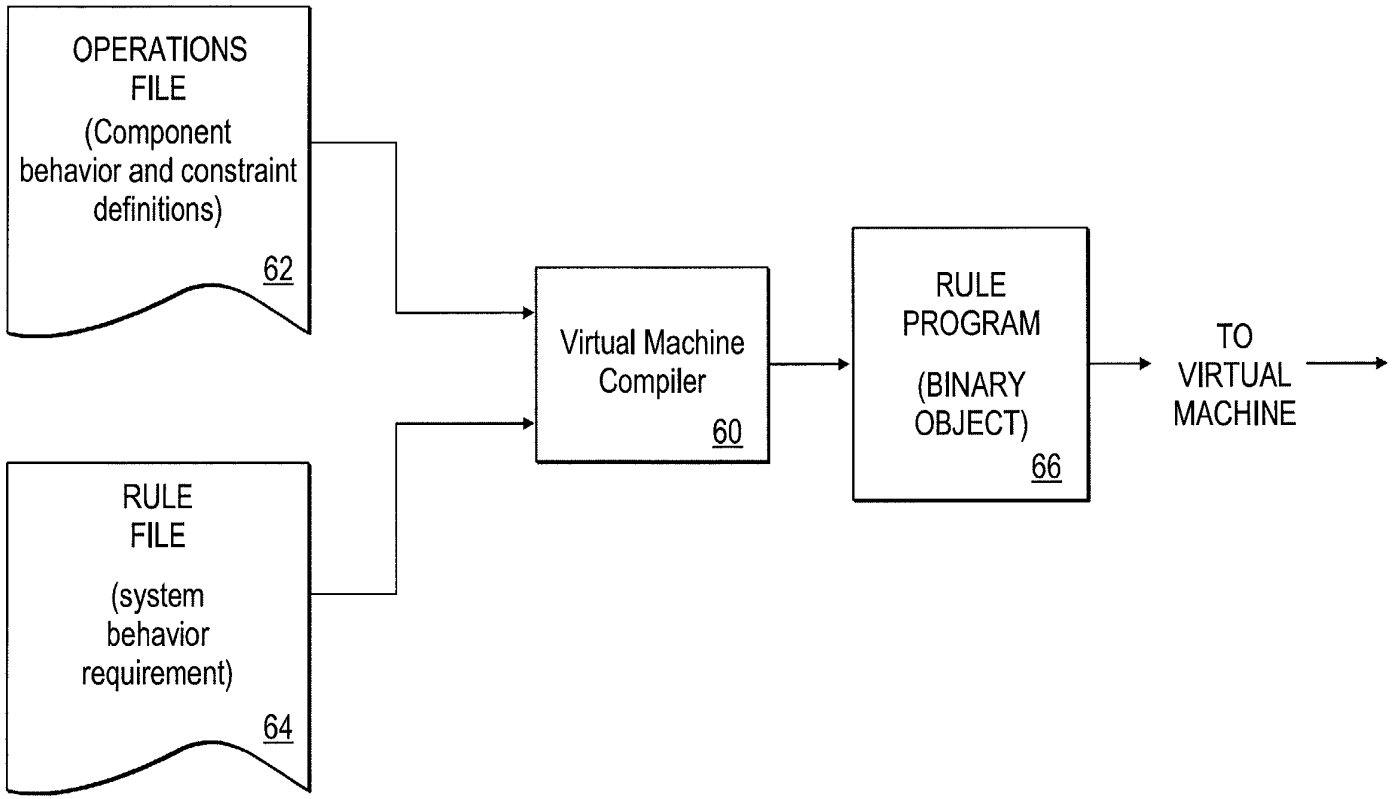
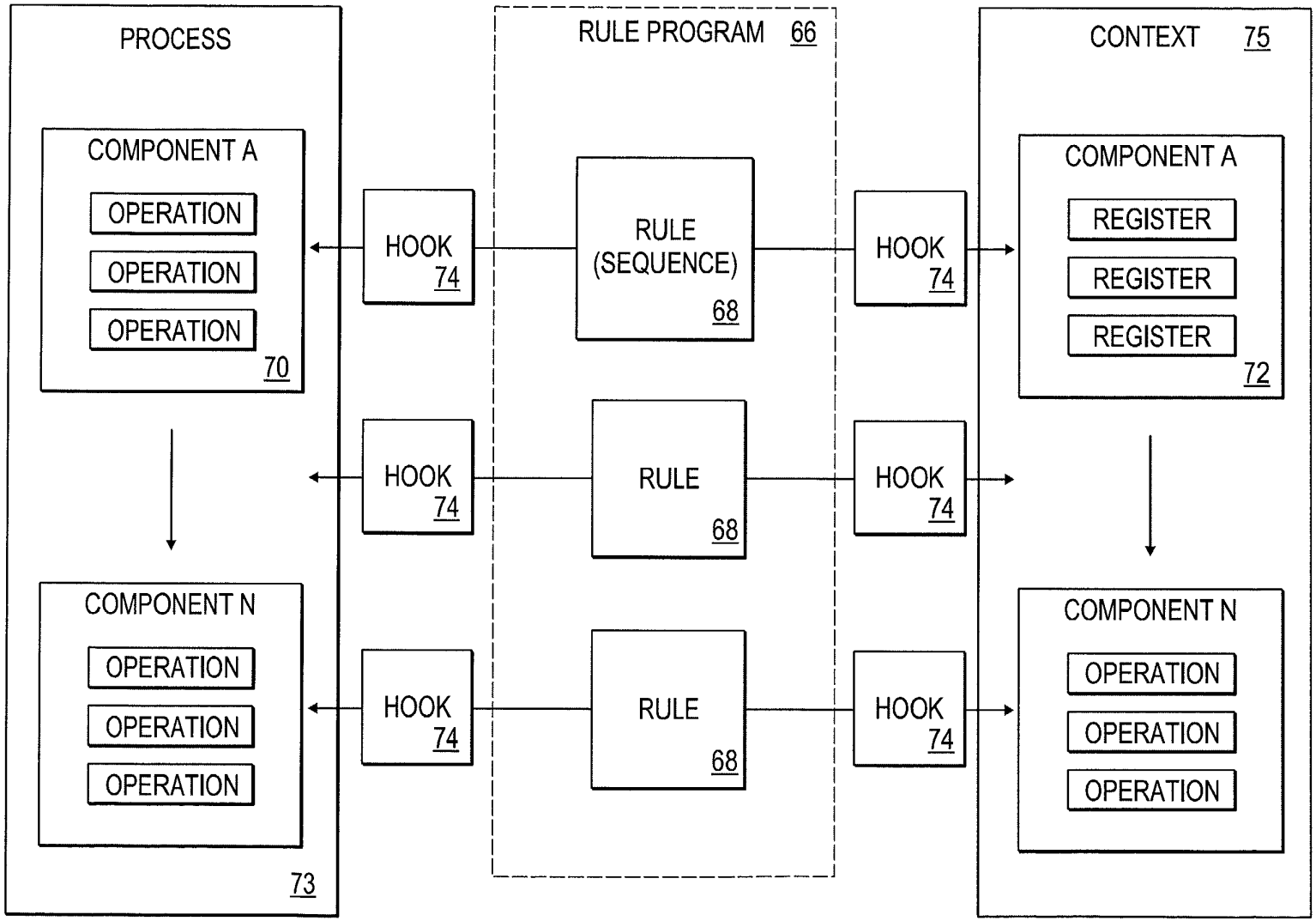


Fig. 9


PROCESS
COMPONENT A
OPERATION
OPERATION
OPERATION
70
COMPONENT N
OPERATION
OPERATION
OPERATION
73
HOOK 74
HOOK 74
HOOK 74
RULE PROGRAM 66
RULE (SEQUENCE) 68
RULE 68
RULE 68
HOOK 74
HOOK 74
HOOK 74
CONTEXT 75
COMPONENT A
REGISTER
REGISTER
REGISTER
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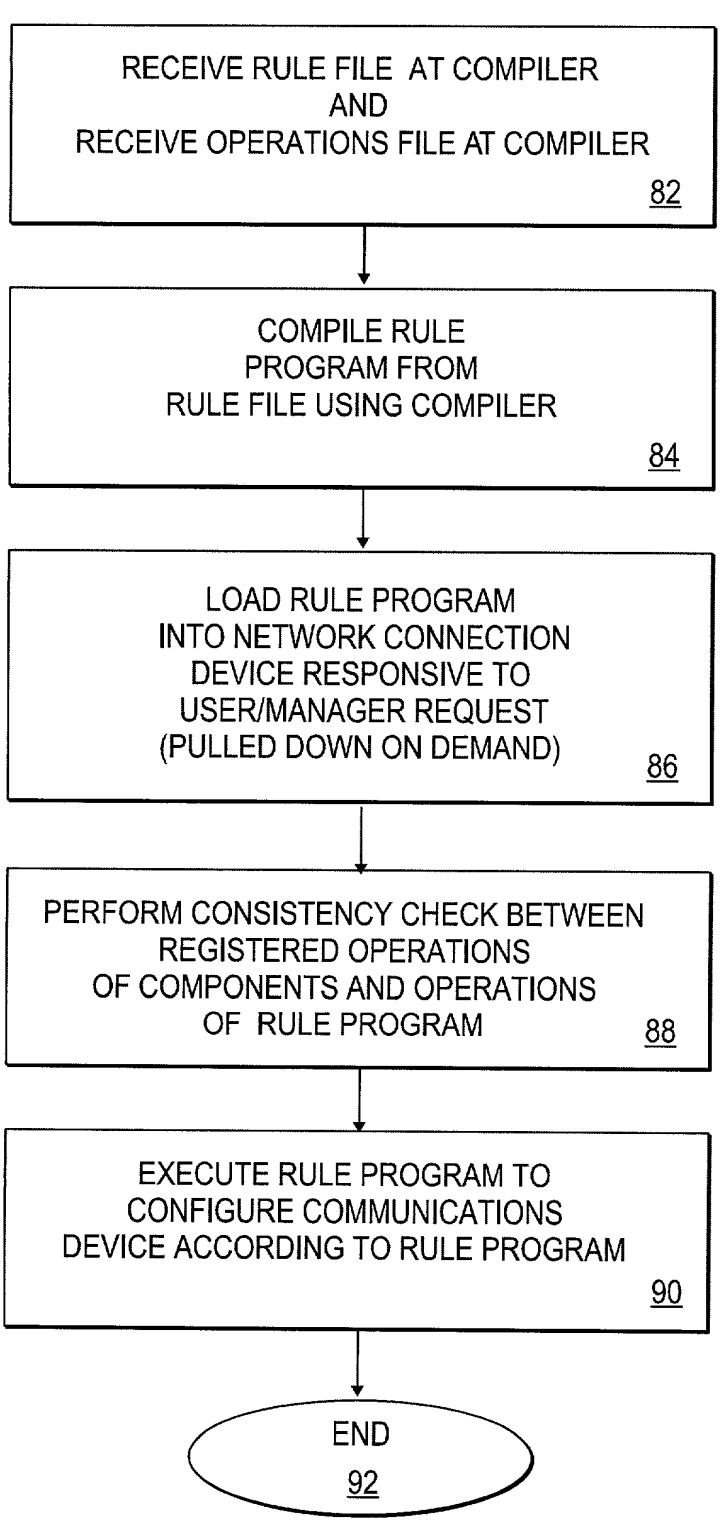
COMPONENT N
OPERATION
OPERATION
OPERATION

Fig. 10


80
RECEIVE RULE FILE AT COMPILER
AND
RECEIVE OPERATIONS FILE AT COMPILER
82
COMPILE RULE
PROGRAM FROM
RULE FILE USING COMPILER
84
LOAD RULE PROGRAM
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DEVICE RESPONSIVE TO
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(PULLED DOWN ON DEMAND)
86
PERFORM CONSISTENCY CHECK BETWEEN
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OF COMPONENTS AND OPERATIONS
OF RULE PROGRAM
88
EXECUTE RULE PROGRAM TO
CONFIGURE COMMUNICATIONS
DEVICE ACCORDING TO RULE PROGRAM
90
END
92

Fig. 11

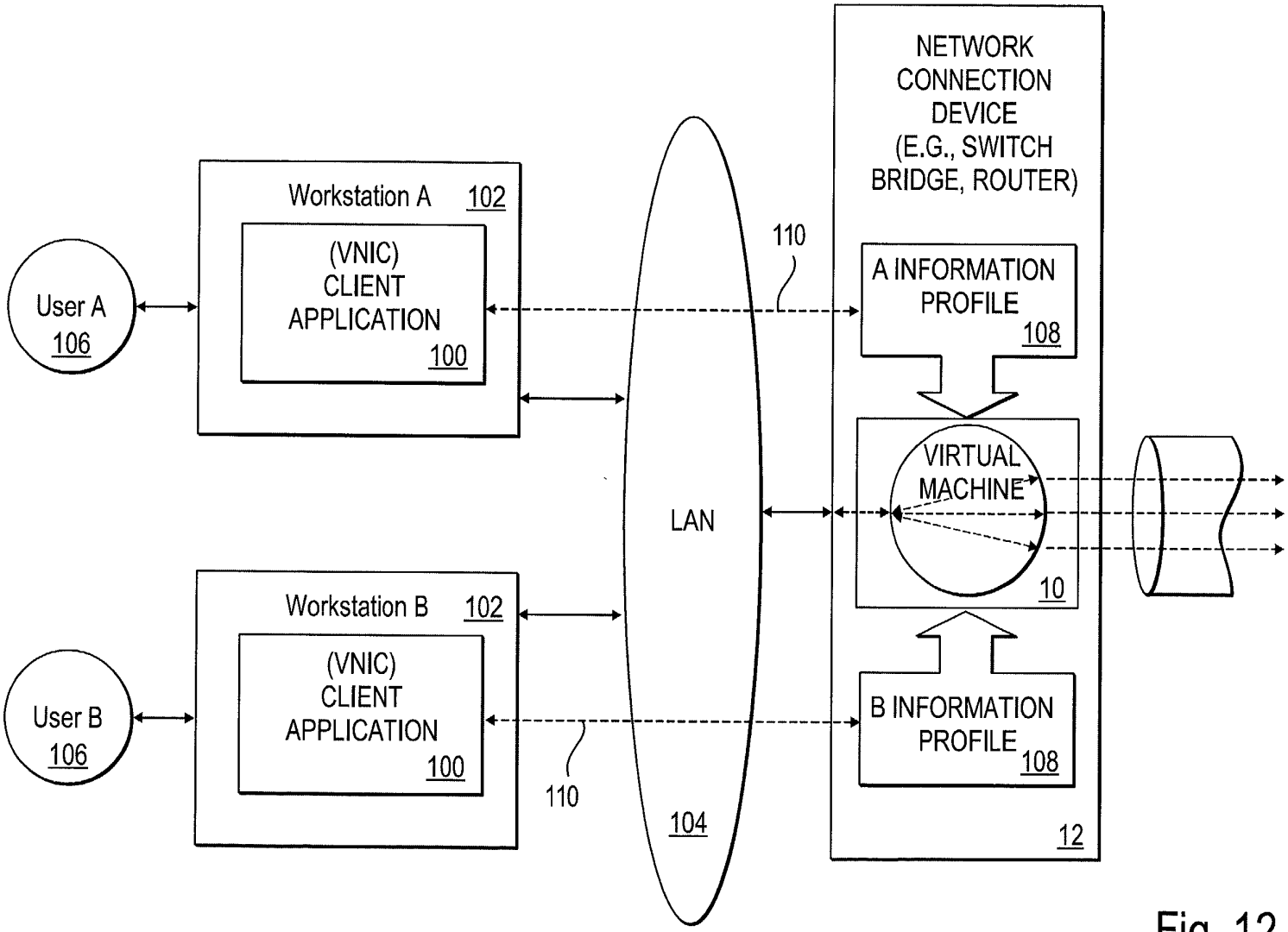
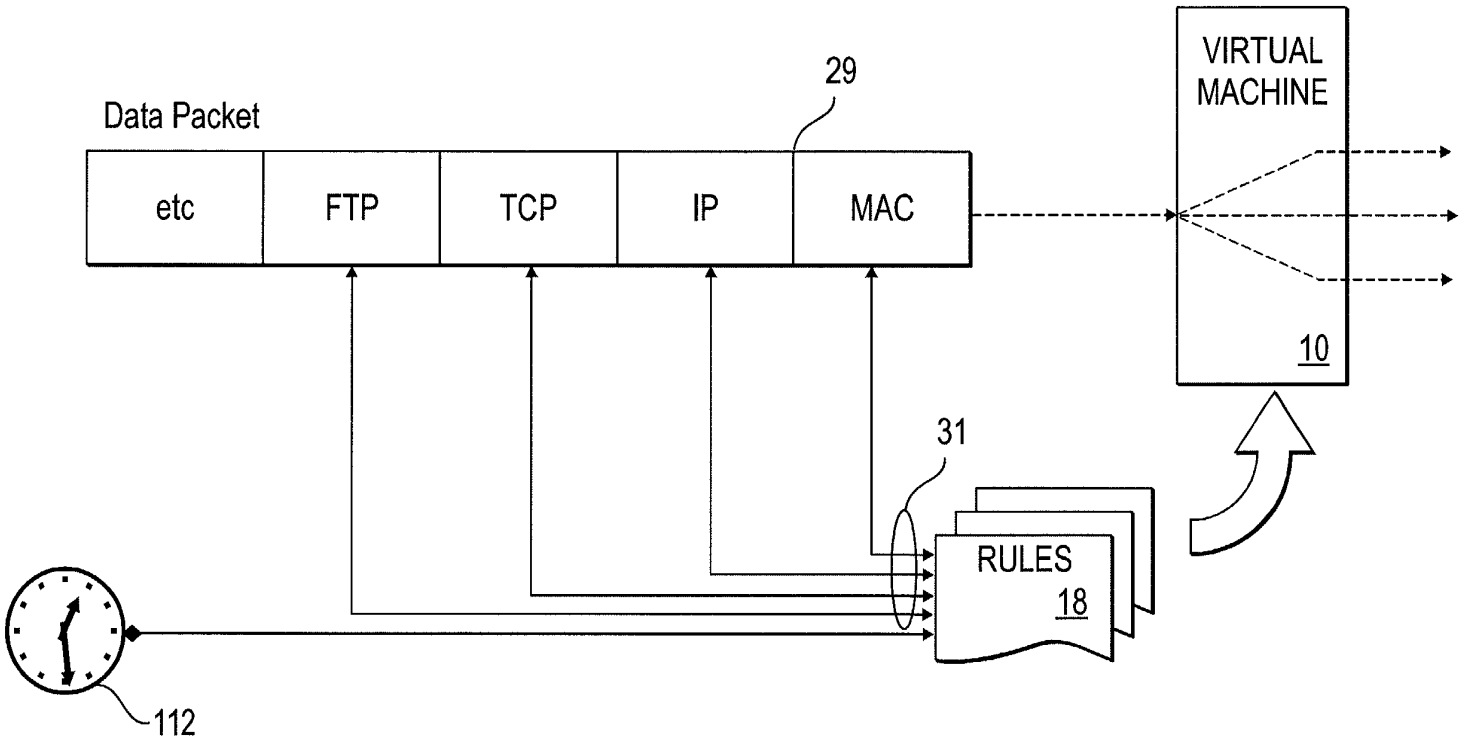


Fig. 12


Data Packet
29
etc
FTP
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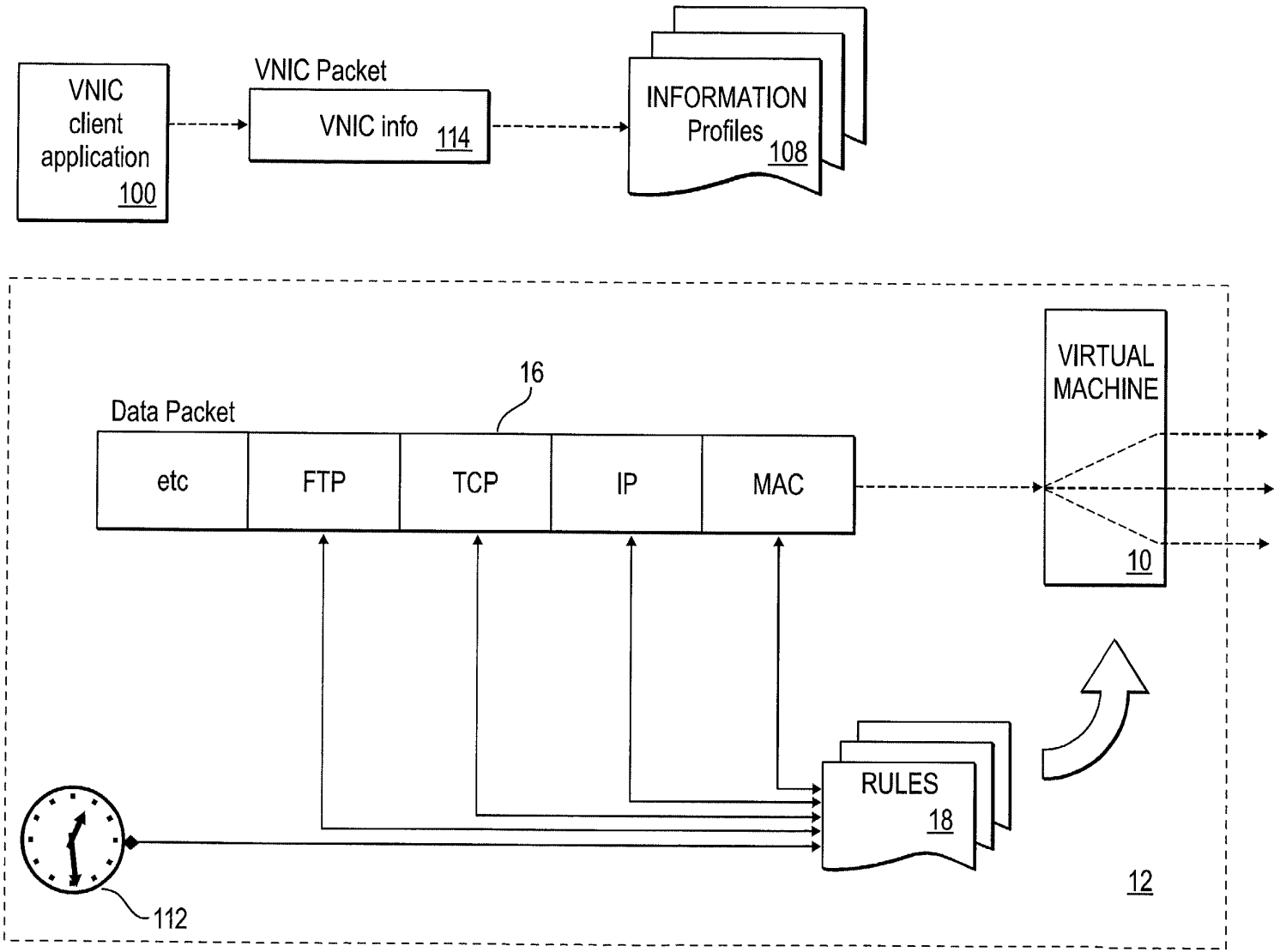


Fig. 14

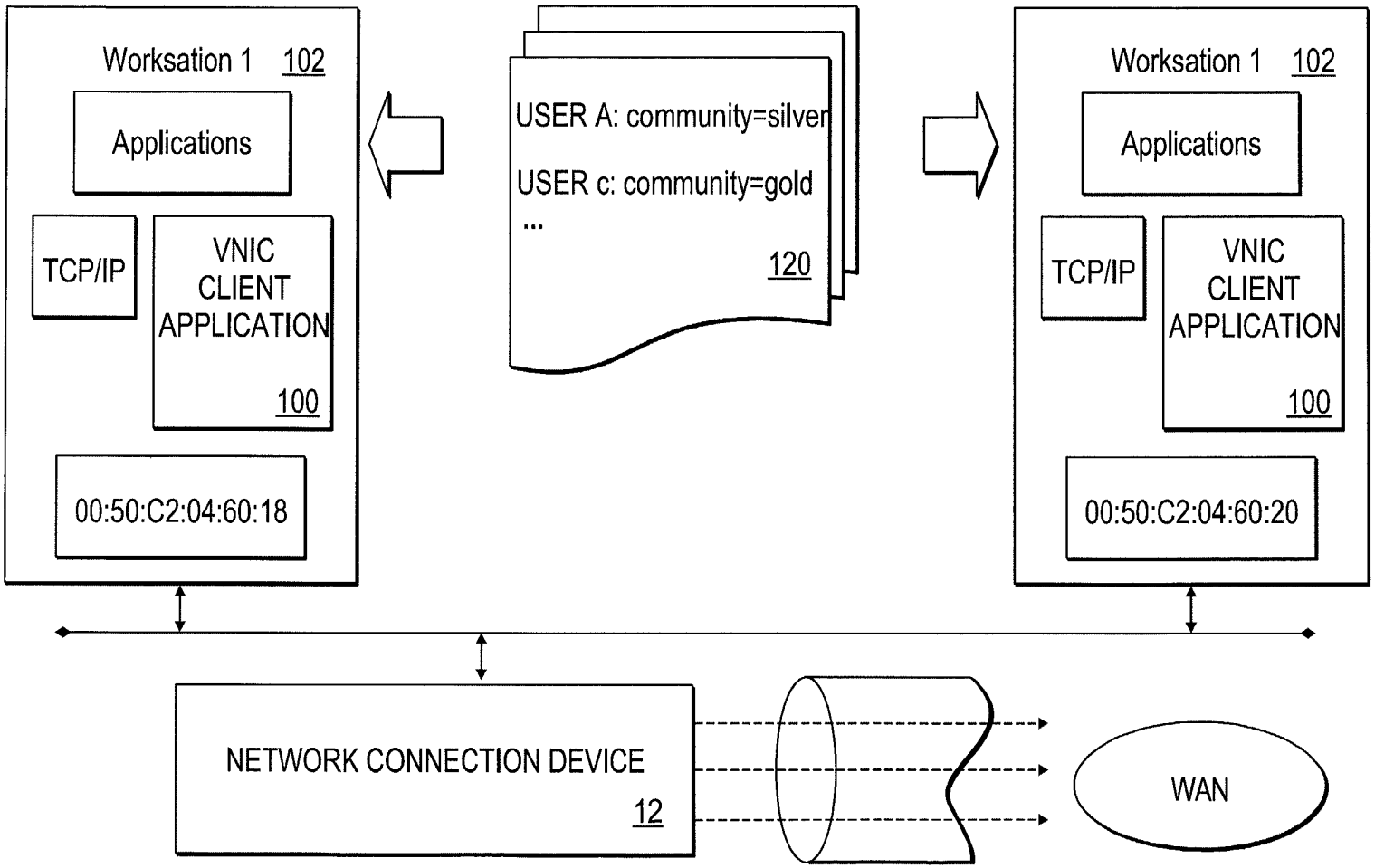

Worksation 1 102
Applications
TCP/IP
VNIC CLIENT APPLICATION 100
00:50:C2:04:60:18
USER A: community=silver
USER c: community=gold
...
120
Worksation 1 102
Applications
TCP/IP
VNIC CLIENT APPLICATION 100
00:50:C2:04:60:20
NETWORK CONNECTION DEVICE 12
WAN

Fig. 15

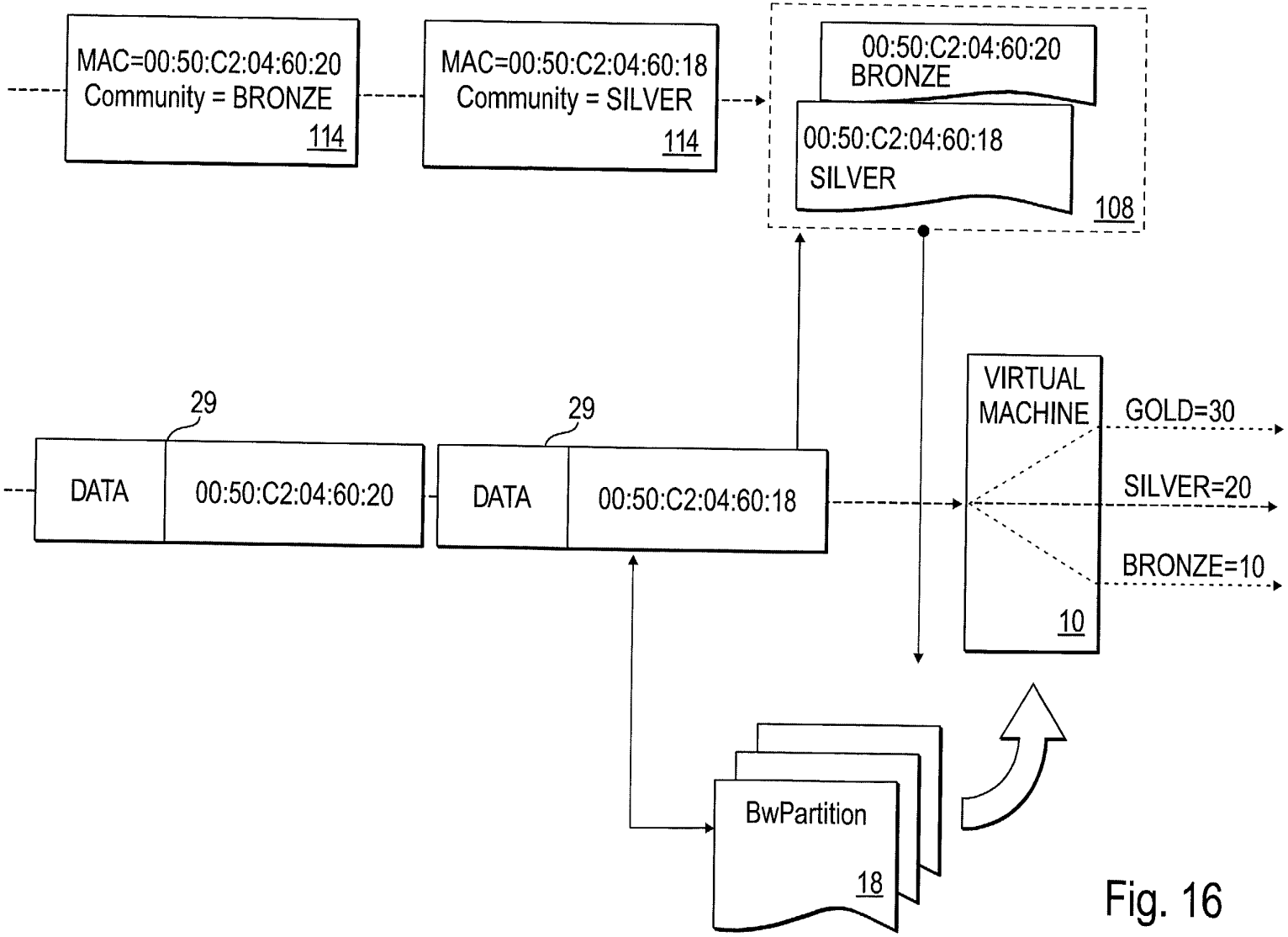
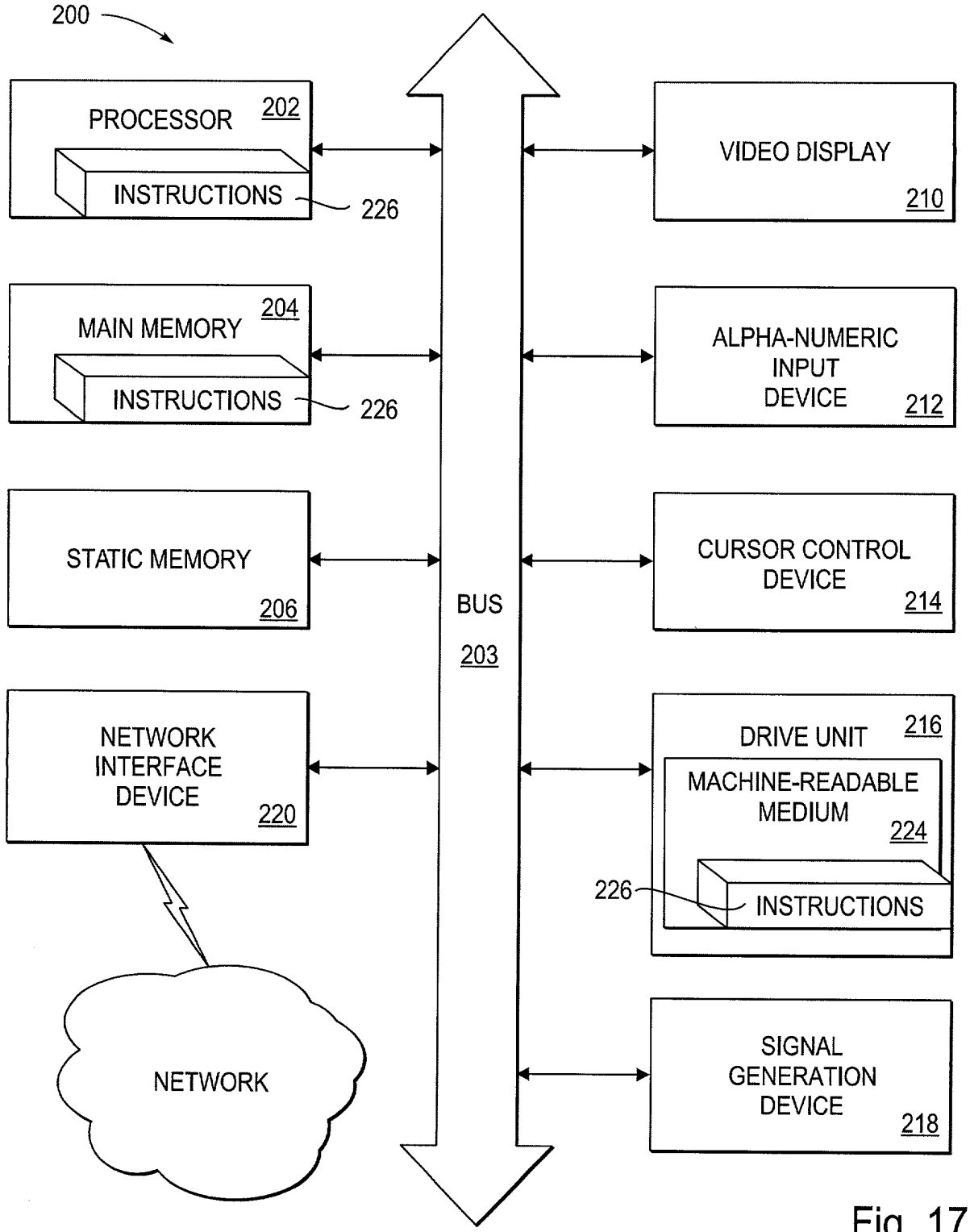


Fig. 16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STATIC MEMORY
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214
DRIVE UNIT
216
MACHINE-READABLE MEDIUM
224
226
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SIGNAL GENERATION DEVICE
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Fig. 17